



# Design and Technology Policy

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## **Curriculum Intent Statement:**

### ***'A Family Committed to Making a Difference'***

At Friezland Primary School we aim to develop well-rounded, resilient individuals who demonstrate mutual respect and tolerance and who have a positive impact on their community and the wider world. Our Curriculum is designed with this in mind. We aim to encourage a life-long love of learning and develop skills for life through the delivery of exciting, challenging and stimulating experiences within and beyond the classroom.

The Design and technology scheme of work aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements. Our Design and technology scheme of work enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum. EYFS (Reception) units provide opportunities for pupils' to work towards the Development matters statements and the Early Learning Goals.

## **Curriculum**

Friezland's Design Technology curriculum follows 'Kapow-mixed planning scheme of work'. Through the design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in key areas. The scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required.

The national curriculum for Design and Technology aims to ensure that all pupils:

- develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- critique, evaluate and test their ideas and products and the work of others
- understand and apply the principles of nutrition and learn how to cook

The National Curriculum 2014

## **Foundation Stage**

We encourage the development of skills, knowledge and understanding that help our reception children make sense of their world. Design and technology in the foundation stage aims to develop independence and self- evaluation of their work.

We relate the development of the children’s expressive arts and design to the objectives set out in the Early Learning Goals and Early Years Outcomes. This learning forms the foundations for later work in design and technology. These early experiences include asking questions about how things work, investigating and using a variety of construction kits, materials, tools, developing making skills and handling appropriate tools and construction material safely and with increasing control.

We provide a range of experiences that encourage exploration, observation, problem solving, critical thinking and discussion. These activities are imaginative and enjoyable. They take place indoors and outdoors and attract the children’s interest and curiosity.

## **Key Stage 1**

In Key Stage 1, Design and technology will be taught through a variety of creative and practical activities. Pupils will be taught the knowledge, understanding and skills needed to engage in the process of designing and making.

Children will be taught:

Design:

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make:

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

Evaluate:

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria.

Technical knowledge:

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

## **Key Stage 2**

Through a variety of creative and practical activities, pupils will be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, leisure, culture, enterprise, industry and the wider environment].

Children will be taught:

Design:

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

Make:

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Evaluate:

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in Design and Technology have helped shape the world

Technical knowledge:

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

### **Cooking and nutrition**

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Children will be taught:

Key stage 1

- understand the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques

- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

### **Cross Curricular Learning**

Design and Technology contributes significantly to other areas of the curriculum. It enhances literacy and numeracy skills, providing valuable opportunities for discussion, drama and listening to the views of others and helps children apply numerical skills such as measuring. Children will apply scientific skills e.g. predicting and fair testing and apply art skills e.g. in the use of finishing skills.

When appropriate, we use ICT to support Design and Technology teaching. Children use software to enhance their skills in designing and making, and use draw-and-paint programs to model ideas and make repeating patterns. The internet is used to gain access to images of people and environments and for research purposes. The children also use ICT to collect information and to present their designs e.g. through draw-and-paint programs, photographs and use of video/animation. Teachers use visualizers to demonstrate ideas and techniques and video conferencing may also be used to enhance learning where appropriate.

Design and Technology contributes to the teaching of personal, social and health education and citizenship. We encourage the children to develop a sense of responsibility in following safe procedures when making things. They also learn about health and healthy diets. Their work encourages them to be responsible and to set targets to meet deadlines, and they also learn through their understanding of personal hygiene, how to prevent disease from spreading when working with food.

The teaching of Design and Technology offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Children work together to discuss their ideas and feelings about their own work and the work of others. Through their collaborative and co-operative work across a range of activities and experiences in design and technology, the children develop respect for the abilities of other children and a better understanding of themselves. They also develop a respect for the environment, for their own health and safety and for that of others. They develop their cultural awareness and understanding, and they learn to appreciate the value of differences and similarities. A variety of experiences teaches them to appreciate that all people are equally important, and that the needs of individuals are not the same as the needs of groups.

### **Equal Opportunities**

Provision is made for all pupils regardless of ability, disability, special Educational need, medical condition, gender, faith or ethnicity. All children have a right to be treated equally and the school will take measures against adults who do not abide by this ethos.

## **Health and Safety**

Design and Technology provides an excellent opportunity for teaching aspects of Health and Safety. Teachers will always model the safe use of tools and equipment and insist on safe practice. Children will be taught to return tools to the tool box when not in use. They will also be taught how to pass, walk and carry tools to where they are being used.

Food Hygiene and safety- we will teach children how to follow proper procedures for food safety and hygiene.

Fresh food will be brought into school, stored in the fridge and used on the same day. Class teachers / LSA will check table tops, all equipment and cookers etc. are clean and in working order. All pupils and adults must wash hands before preparing food.

## **Assessment for Learning**

Teachers assess children's work in Design and Technology by making assessments against the Progression of Skills Document (Appendices 2) as they observe them working during lessons by questioning, observing and eliciting children's ideas. The assessment of children's work is on-going to ensure that understanding is being achieved and that progress is being made.

Children's progress is measured against the learning objectives set for the lesson. Observations and on-going teacher assessment inform next steps in learning and future planning. Peer and self-evaluation are also encouraged.

Feedback is given to the children as soon as possible, and marking work will be guided by the school's Marking Policy. Teachers will encourage all children, giving feedback and guidance for future work, to enhance understanding.

## **Reporting to Parents**

Parents receive a written assessment of their child's ability in Design and Technology at the end of each academic year and have the opportunity to discuss their child's progress at termly parent's meetings.

## **Resources**

Consumable materials are ordered to resource the scheme of work. These are stored either in classrooms or centrally in the ART/DT cupboard.

Tools and equipment related to cooking and nutrition is stored in a separate food cupboard on the corridor.

Consumable food items are purchased by staff and taken from the class annual budget allowance.

Resource expenditure and staff CPD are linked to school improvement priorities and their impact upon motivation, engagement and standards is monitored and evaluated annually during the summer term.

## **Roles and Responsibilities**

### **Headteacher & Governing Body**

The headteacher and Governing Body are responsible for:

- Involvement in focus groups to develop policy and practice;
- Overseeing the standards of Design and Technology, and
- Approving the acquisition of new resources.

### **Subject Leader**

The subject leader is responsible for:

- The audit and identification of resources for purchase for DT;
- Liaising with Resource Team to ensure effective maintenance and ease of access to resources;
- Monitoring and evaluating the implementation of the scheme of work and its effectiveness on learning;
- Reviewing planning;
- Delivering relevant inset training to other members of staff;
- Preparing an activity plan based on the school cycle of develop practice, monitor, evaluate, review and school improvement priorities;
- Writing, modifying and reviewing, in consultation with other staff and governors, the policy document for Design and Technology, and
- From time to time report on standards to the governing body.

### **Class teacher**

The Class teacher is responsible for:

- Planning and delivering the Design and Technology Curriculum;
- Assessing children's work both formatively and summatively, and
- Reporting to parents and DT coordinator.

## **Monitoring & evaluating**

Policy and practice in Design and Technology are monitored and evaluated on a regular basis in accordance with the school development planning cycle. The provision of DT will be monitored by the DT co-coordinator in conjunction with the headteacher. Monitoring may take the form of lesson observation, planning, display, pupil voice or cross curricular book scrutinies. Feedback will be given to all staff along with recommendations to inform future policy and planning. Personal development of the DT co-coordinator will be maintained to ensure that new initiatives and curriculum updates are fed back to staff and incorporated into regular practice. All staff are involved in the review and development of the DT policy.



## **Data Protection Statement**

The procedures and practice created by this policy have been reviewed in the light of our Data Protection Policy. All data will be handled in accordance with the school's Data Protection Policy.

<b>Data Audit for the Assessment Policy</b>					
<b>What?</b>	<b>Probable Content</b>	<b>Why?</b>	<b>Who?</b>	<b>Where?</b>	<b>When?</b>
Pupil assessment data  Pupil end of term reports	Name  D.O.B.  Teacher Assessment data	Monitor a child's progress and identify next steps	All Staff  (as necessary)	Staff electronic records  Data is deleted / shredded as necessary	Held on File throughout a child's time at school  Key data is passed onto a new School when moving on  Some data is archived until the child is 25 (e.g. SEND pupil)

As such, our assessment is that this policy:

<b>Has Few / No Data Compliance Requirements</b>	<b>Has A Moderate Level of Data Compliance Requirements</b>	<b>Has a High Level of Data Compliance Requirements</b>
	✓	

This policy will be reviewed every three years or sooner if legislation / school assessment systems change.

# Appendices 1

## Class 1

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the Policy*

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Theme/ Topic</b>	<b>Junk Modelling</b>	<b>Sliders for Christmas cards</b>	<b>Flower threading</b>	<b>Cooking and Nutrition - Soup</b>	<b>Textiles – Bookmarks</b>	<b>Structures: Boats</b>
<b>Main Enquiry (brief)</b>	Can I discuss my plans and material choices to develop a model out of junk materials?	Can I create a picture with a simple sliding mechanism?	Can I design and make a threaded flower?	Can we design and make a class-based vegetable soup?	Can I design and make a bookmark using threading and weaving techniques?	Can I design and make a boat that is waterproof and will float on water?
<b>Coverage</b>	Construct a model from junk materials, discussing design and materials choices.	Explore a simple paper slider mechanism as part of a practical example and then apply it to create their own sliding Santa chimney picture.	Create a flower threading pattern using a range of tools and techniques.	Explore a variety of vegetables and the nutrition they give, then apply this understanding to design and follow to make a class-based vegetable soup.	Developing threading knowledge and techniques learnt throughout Autumn 2, children will design and make a bookmark using threading and weaving techniques using a needle and wool.	Analyse and evaluate a range of objects that float and sink focussing on waterproof and non-waterproof materials, shape and structure, then use new knowledge to design a boat with the aim of it floating.
<b>Key Knowledge &amp; Skills</b>	<ul style="list-style-type: none"> <li>• To know there are a range of different materials that can be used to make a model and that they are all slightly different.</li> <li>• To be able to make simple suggestions to fix their junk model.</li> </ul> <p><b>Key skills:</b></p> <ul style="list-style-type: none"> <li>• Making verbal plans and material choices.</li> <li>• Developing a junk model.</li> <li>• Improving fine motor/scissor skills with a variety of materials.</li> <li>• Joining materials in a variety of ways (temporary and permanent).</li> <li>• Joining different materials together.</li> <li>• Describing their junk model, and how they intend to put it together.</li> <li>• Giving a verbal evaluation of their own and others' junk models with adult support.</li> <li>• Checking to see if their model matches their plan.</li> <li>• Considering what they would do differently if they were to do it again.</li> <li>• Describing their favourite and least favourite part of their model.</li> </ul>	<ul style="list-style-type: none"> <li>• To know there are a range of different materials that can be used to make a sliding mechanism.</li> <li>• To know how to make a simple sliding mechanism.</li> </ul> <p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Refine a variety of artistic effects to express their ideas and feelings.</li> <li>• Build on their previous learning, refining ideas and developing their ability to represent them.</li> <li>• Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.</li> <li>• Share their creations, explaining the process they have used.</li> </ul>	<ul style="list-style-type: none"> <li>• To know that a design is a way of planning our idea before we start.</li> <li>• To know that threading is putting one material through an object.</li> </ul> <p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Discussing what a good design needs.</li> <li>• Designing a simple pattern with paper.</li> <li>• Designing a flower.</li> <li>• Choosing from available materials.</li> <li>• Developing fine motor/cutting skills with scissors.</li> <li>• Exploring fine motor/threading and weaving (under, over technique) with a variety of materials.</li> <li>• Reflecting on a finished product and comparing to their design.</li> </ul>	<ul style="list-style-type: none"> <li>• To know that soup is ingredients (usually vegetables and liquid) blended together.</li> <li>• To know that vegetables are grown.</li> <li>• To recognise and name some common vegetables.</li> <li>• To know that different vegetables taste different.</li> <li>• To know that eating vegetables is good for us.</li> <li>• To discuss why different packages might be used for different foods.</li> </ul> <p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Designing a soup recipe as a class.</li> <li>• Designing soup packaging.</li> <li>• Chopping plasticine safely.</li> <li>• Chopping vegetables with support.</li> <li>• Tasting the soup and giving opinions.</li> <li>• Describing some of the following when tasting food: look, feel, smell and taste.</li> <li>• Choosing their favourite packaging design and explaining why</li> </ul>	<ul style="list-style-type: none"> <li>• To know that a design is a way of planning our idea before we start.</li> <li>• To know that threading is putting one material through an object.</li> </ul> <p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Discussing what a good design needs.</li> <li>• Designing a simple pattern with paper.</li> <li>• Designing a bookmark.</li> <li>• Choosing from available materials.</li> <li>• Developing fine motor/cutting skills with scissors.</li> <li>• Exploring fine motor/threading and weaving (under, over technique) with a variety of materials.</li> <li>• Using a prepared needle and wool to practise threading.</li> <li>• Reflecting on a finished product and comparing to their design.</li> </ul>	<ul style="list-style-type: none"> <li>• To know that 'waterproof' materials are those which do not absorb water.</li> <li>• To know that some objects float and others sink.</li> <li>• To know the different parts of a boat.</li> </ul> <p><b>Key Skills:</b></p> <ul style="list-style-type: none"> <li>• Making a boat that floats and is waterproof, considering material choices.</li> <li>• Designing a junk model boat.</li> <li>• Using knowledge from exploration to inform design</li> <li>• Making predictions about, and evaluating, different materials to see if they are waterproof.</li> <li>• Making predictions about, and evaluating, existing boats to see which floats best.</li> <li>• Testing their design and reflecting on what could have been done differently.</li> <li>• Investigating the how the shapes and structure of a boat affect the way it moves.</li> </ul>

**Class 2**  
**Year A**

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the policy.*

Term	Autumn 2	Spring 2	Summer 2
Theme/Topic	<b>Structures: Constructing a windmill</b>	<b>Textiles: Puppets Link to English</b>	<b>Cooking and nutrition: Fruit and Vegetables Link to science</b>
Main Enquiry (brief)	Can I design and create a model of a windmill?	Can I design and create a puppet?	Can I design and create a smoothie from a selection of fruit and vegetables?
Coverage	Identify features that would appeal to the client (a mouse) and create a suitable design, make a stable structure and functioning turbines and axles.	Join fabrics using pins, staples or glue then design and create a puppet by joining the two faces together and decorating.	Identify where fruit and vegetables grow, then describe their characteristics and which parts of them we eat before preparing them to make a smoothie.
Key Knowledge & Skills	<p>To understand that the shape of materials can be changed to improve the strength and stiffness of structures.</p> <p>To understand that cylinders are a strong type of structure (and, therefore, they are the main shape used for windmills and lighthouses).</p> <p>To understand that axles are used in structures and mechanisms to make parts turn in a circle.</p> <p>To begin to understand that different structures are used for different purposes.</p> <p>To know that a structure is something that has been made and put together.</p> <p><b>Key skills:</b> Learning the importance of a clear design criteria. Including individual preferences and requirements in a design. Making stable structures from card, tape and glue. Learning how to turn 2D nets into 3D structures. Following instructions to cut and assemble the supporting structure of a windmill. Making functioning turbines and axles which are assembled into a main supporting structure.</p>	<p>To know that 'joining technique' means connecting two pieces of material together.</p> <p>To know that there are various temporary methods of joining fabric by using staples, glue or pins.</p> <p>To understand that different techniques for joining materials can be used for different purposes.</p> <p>To understand that a template (or fabric pattern) is used to cut out the same shape multiple times.</p> <p>To know that drawing a design idea is useful to see how an idea will look.</p> <p><b>Key skills:</b> Using a template to create a design for a puppet. Cutting fabric neatly with scissors. Using joining methods to decorate a puppet. Sequencing steps for construction. Reflecting on a finished product, explaining likes and dislikes.</p>	<p>To understand the difference between fruits and vegetables.</p> <p>To understand that some foods typically known as vegetables are actually fruits (e.g. cucumber).</p> <p>To know that a blender is a machine which mixes ingredients together into a smooth liquid.</p> <p>To know that a fruit has seeds and a vegetable does not.</p> <p>To know that fruits grow on trees or vines. To know that vegetables can grow either above or below ground.</p> <p>To know that vegetables can come from different parts of the plant.</p> <p><b>Key skills:</b> Designing smoothie carton packaging by-hand or on ICT software. Chopping fruit and vegetables safely to make a smoothie. Identifying if a food is a fruit or a vegetable. Learning where and how fruits and vegetables grow. Tasting and evaluating different food combinations. Describing appearance, smell and taste. Suggesting information to be included on packaging.</p>

## Year B

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the Policy*

Term	Autumn 2	Spring 2	Summer 2
Theme / Topic	<b>Structures: Baby bear's chair</b> Link to English	<b>Mechanisms: Making a moving monster</b> Link to English	<b>Mechanisms: Fairground Wheel</b>
Main Enquiry (Brief)	Can I design and make a chair for Baby bear?	Can I design and create a moving monster?	Can I design and construct a rotating fairground wheel?
Coverage	Identify features that make a chair stable and produce a model that supports a teddy, using appropriate materials and construction techniques.	Analyse a range of popular toys, then create functional linkages producing input and output motions. Design and create a monster, then assemble it to their linkages.	Design and build a ferris wheel considering suitable materials, shape, construction and mechanisms. Test and adapt designs.
Key Knowledge	<p>To know that shapes and structures with wide, flat bases or legs are the most stable. To understand that the shape of a structure affects its strength.</p> <p>To know that materials can be manipulated to improve strength and stiffness.</p> <p>To know that a structure is something which has been formed or made from parts.</p> <p>To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move.</p> <p>To know that a 'strong' structure is one which does not break easily.</p> <p>To know that a 'stiff' structure or material is one which does not bend easily.</p> <p><b>Key skills:</b> Generating and communicating ideas using sketching and modelling. Learning about different types of structures, found in the natural world and in everyday objects. Making a structure according to design criteria. Creating joints and structures from paper/card and tape. Building a strong and stiff structure by folding paper. Exploring the features of structures. Comparing the stability of different shapes. Testing the strength of their own structures. Identifying the weakest part of a structure. Evaluating the strength, stiffness and stability of their own structure.</p>	<p>To know that mechanisms are a collection of moving parts that work together as a machine to produce movement.</p> <p>To know that there is always an input and an output in a mechanism.</p> <p>To know that an input is the energy that is used to start something working.</p> <p>To know that an output is the movement that happens as a result of the input.</p> <p>To know that a lever is something that turns on a pivot.</p> <p>To know that a linkage mechanism is made up of a series of levers.</p> <p><b>Key skills:</b> Creating a class design criteria for a moving monster.. Designing a moving monster for a specific audience in accordance with a design criteria. Making linkages using card for levers and split pins for pivots. Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. Cutting and assembling components neatly. Evaluating own designs against design criteria. Using peer feedback to modify a final design.</p>	<p>To know that different materials have different properties and are therefore suitable for different uses.</p> <p>To know the features of a Ferris wheel include the wheel, frame, pods, a base, an axle and an axle holder.</p> <p>To know that it is important to test a design as you go along so that you can solve any problems that may occur.</p> <p><b>Key skills:</b> Selecting a suitable linkage system to produce the desired motions. Designing a wheel. Selecting appropriate materials based on their properties. Selecting materials according to their characteristics. Following a design brief. Evaluating different designs. Testing and adapting a design.</p>

**Class 3**  
**Year A**

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the Policy*

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Theme/Topic</b>	<b>Digital World: Electronic charm.</b> <b>Link to Coding: Computing</b>	<b>Cooking and Nutrition: Eating Seasonally</b> <b>Link to science</b>	<b>Structures: Constructing a castle</b> <b>Link to Topic</b>	<b>Mechanical systems: Pneumatic toys</b> <b>Link to English</b>	<b>Electrical Systems: Torches</b> <b>Link to Science Light Topic</b>	<b>Textiles: fastenings</b> <b>Link to Topic</b>
<b>Main Enquiry (brief)</b>	Can I design, produce and sell an electronic charm?	Using seasonal fruit and vegetables, can I design and create a seasonal tart?	Can I design and create a model of a castle?	Using the class text Nothing to See Here Hotel, can I design and develop a monster that opens and shuts its mouth?	Can I design and create a working torch to use in my 'light' science experiment?	Can I design and evaluate a Greek themed attractive book cover fit for purpose?
<b>Coverage</b>	Design, develop a program, house and promote a Micro: bit electronic charm to use in low-light conditions.	Learn about various fruits and vegetables, and when, where and why they are grown in different seasons. Discover the relationship between colour and health benefits.	Identify and learn about the key features of a castle, before designing and making a recycled-material castle (structure).	Explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.	Identify the difference between electrical and electronic products. Evaluate a range of existing torches and their features, then develop a new functional torch design.	Analyse and evaluate a range of existing fastenings, then devise a list of design criteria to design, generate templates and make a fabric book sleeve.
<b>Key Knowledge &amp; Skills</b>	To understand that in programming a 'loop' is code that repeats something again and again until stopped. To know that a Micro: bit is a pocket-sized, codable computer. Writing a program to control (button press) and/or monitor (sense light) that will initiate a flashing LED algorithm.  <b>Key skills:</b> Problem solving by suggesting potential features on a Micro:bit and justifying my ideas. Developing design ideas for a technology pouch. Drawing and manipulating 2D shapes, using computer-aided design, to produce a point of sale badge.	To know that not all fruits and vegetables can be grown in the UK. To know that climate affects food growth. To know that vegetables and fruit grow in certain seasons. To know that cooking instructions are known as a 'recipe'. To know that imported food is food that has been brought into the country.  <b>Key Skills:</b> Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish. Knowing how to prepare themselves and a workspace to cook safely	To understand that wide and flat based objects are more stable. To understand the importance of strength and stiffness in structures. To know the following features of a castle: flags, towers, battlements, turrets, curtain walls, moat, drawbridge and gatehouse – and their purpose. To know that a façade is the front of a structure. To understand that a castle needed to be strong and stable to withstand enemy attack.  <b>Key Skills:</b> Designing a castle with key features to appeal to a specific person/purpose. Drawing and labelling a castle design using 2D shapes.	To understand how pneumatic systems work. To understand that pneumatic systems can be used as part of a mechanism. To know that pneumatic systems operate by drawing in, releasing and compressing air. To understand how sketches, drawings and diagrams can be used to communicate design ideas. To know that exploded-diagrams are used to show how different parts of a product fit together. To know that thumbnail sketches are small drawings to get ideas down on paper quickly.  <b>Key Skills:</b> Designing a toy that uses a pneumatic system.	To understand that electrical conductors are materials which electricity can pass through. To understand that electrical insulators are materials which electricity cannot pass through. To know that a battery contains stored electricity that can be used to power products. To know that an electrical circuit must be complete for electricity to flow. To know that a switch can be used to complete and break an electrical circuit.  <b>Key Skills:</b> Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.	To know that a fastening is something that holds two pieces of material together. To know that different fastening types are useful for different purposes. To know that creating a mock-up (prototype) of their design is useful for checking ideas and proportions.  <b>Key Skills:</b> Writing design criteria for a product, articulating decisions made. Designing a personalised book sleeve. Making and testing a paper template with accuracy and in keeping with the design criteria. Measuring, marking and cutting fabric using a paper template.

	<p>Using a template when cutting and assembling the pouch.</p> <p>Following a list of design requirements.</p> <p>Selecting and using the appropriate tools and equipment for cutting, joining, shaping and decorating a foam pouch.</p> <p>Applying functional features such as using foam to create soft buttons.</p> <p>Analysing and evaluating an existing product.</p> <p>Identifying the key features of a pouch.</p>	<p>in, learning the basic rules to avoid food contamination.</p> <p>Following the instructions within a recipe.</p> <p>Establishing and using design criteria to help test and review dishes.</p> <p>Describing the benefits of seasonal fruits and vegetables and the impact on the environment.</p> <p>Suggesting points for improvement when making a seasonal tart.</p>	<p>Designing and/or decorating a castle tower on CAD software.</p> <p>Constructing a range of 3D geometric shapes using nets.</p> <p>Creating special features for individual designs.</p> <p>Making facades from a range of recycled materials.</p> <p>Evaluating own work and the work of others based on the aesthetic of the finished product and in comparison to the original design.</p> <p>Suggesting points for modification of the individual designs.</p>	<p>Developing design criteria from a design brief.</p> <p>Generating ideas using thumbnail sketches and exploded diagrams.</p> <p>Learning that different types of drawings are used in design to explain ideas clearly.</p> <p>Creating a pneumatic system to create a desired motion.</p> <p>Building secure housing for a pneumatic system.</p> <p>Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy.</p> <p>Selecting materials due to their functional and aesthetic characteristics.</p> <p>Manipulating materials to create different effects by cutting, creasing, folding and weaving.</p> <p>Using the views of others to improve designs.</p> <p>Testing and modifying the outcome, suggesting improvements.</p> <p>Understanding the purpose of exploded-diagrams through the eyes of a designer and their client.</p>	<p>Making a torch with a working electrical circuit and switch.</p> <p>Using appropriate equipment to cut and attach materials.</p> <p>Assembling a torch according to the design and success criteria.</p> <p>Evaluating electrical products.</p> <p>Testing and evaluating the success of a final product.</p>	<p>Selecting a stitch style to join fabric.</p> <p>Sewing neatly using small regular stitches.</p> <p>Incorporating a fastening to a design.</p> <p>Testing and evaluating an end product against the original design criteria.</p>
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## Year B

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the Policy*

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Theme / Topic</b>	<b>Digital world: Mindful moments timer</b> <b>Link to computing – coding topic</b>	<b>Cooking and Nutrition: Adapting a Recipe</b>	<b>Textiles: cross-stitch and appliqué.</b> <b>Link to topic</b>	<b>Electrical Systems: Information Design</b> <b>Link to Topic</b>	<b>Structures</b>	<b>Mechanical systems: Making a slingshot car</b>
<b>Main Enquiry (Brief)</b>	Can I create and design a mindful moment create?	Can I design some Christmas biscuits within a budget?	How do you design and make an Egyptian collar? (5 Lessons)	How can I develop and design an electric museum display based on the Egyptians?	Can I design a pavilion that is strong, stable and aesthetically pleasing?	How can I design a toy car that will travel the furthest distance?
<b>Coverage</b>	Explore what is meant by mindfulness and write design criteria to fulfil a brief to develop a programmed product for timing a mindful moment.	Work in groups to adapt an existing biscuit recipe, whilst taking into account the cost of the ingredients and other expenses against a set budget.	Sewing techniques cross stitch and applique.	Understanding the purpose of information design. Then to design and assemble a final product, incorporating a simple circuit	Investigate and model frame structures to improve their stability, then apply this research to design and create a stable, decorated pavilion.	Using a range of materials, design and make a car with a working slingshot mechanism and house the mechanism using a range of nets.
<b>Key Knowledge &amp; Skills</b>	<p>To understand what variables are in programming.</p> <p>To know some of the features of a Micro:bit.</p> <p>To know that an algorithm is a set of instructions to be followed by the computer.</p> <p>To know that it is important to check my code for errors (bugs).</p> <p>To know that a simulator can be used as a way of checking that your code works before installing it onto an electronic device.</p> <p><b>Key Skills:</b> Writing design criteria for a programmed timer (Micro:bit). Exploring different mindfulness strategies and using this research to inform my design criteria. Developing a prototype</p>	<p>To know that the amount of an ingredient in a recipe is known as the 'quantity'.</p> <p>To know that it is important to use oven gloves when removing hot food from an oven.</p> <p>To know the following cooking techniques: sieving, creaming, rubbing method, cooling.</p> <p>To understand the importance of budgeting while planning ingredients for biscuits.</p> <p><b>Key Skills:</b> Designing a biscuit within a given budget, drawing upon previous taste testing. Following a baking recipe. Cooking safely, following basic hygiene rules. Adapting a recipe. Evaluating a recipe, considering: taste, smell,</p>	<p>To know that applique is a way of mending or decorating a textile by applying smaller pieces of fabric to larger pieces.</p> <p>To know that when two edges of fabric have been joined together it is called a seam.</p> <p>To know that it is important to leave space on the fabric for the seam.</p> <p>To understand that some products are turned inside out after sewing so the stitching is hidden.</p> <p><b>Key Skills:</b> Designing and making a template for an Egyptian collar and applying individual design criteria. Following their design criteria to create an Egyptian collar. Selecting and cutting</p>	<p>To understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit.</p> <p>To understand common features of an electric product (switch, battery or plug, dials, buttons etc.)</p> <p>To list examples of common electric products (kettle, remote control etc.)</p> <p>To understand that an electric product uses an electrical system to work (function).</p> <p>To know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits.</p> <p><b>Key Skills:</b> Carrying out research based on the Egyptians to develop a range of initial ideas.</p>	<p>To understand what a frame structure is.</p> <p>To know that a 'free-standing' structure is one that can stand on its own.</p> <p>To know that a pavilion is a decorative building or structure for leisure activities.</p> <p>To know that cladding can be applied to structures for different effects.</p> <p>To know that aesthetics are how a product looks.</p> <p><b>Key Skills:</b> Designing a stable pavilion structure that is aesthetically pleasing and selecting materials to create a desired effect. Building frame structures designed to support weight. Creating a range of different shaped frame structures.</p>	<p>To understand that all moving things have kinetic energy.</p> <p>To understand that kinetic energy is the energy that something (object/person) has by being in motion.</p> <p>To know that air resistance is the level of drag on an object as it is forced through the air.</p> <p>To understand that the shape of a moving object will affect how it moves due to air resistance.</p> <p><b>Key Skills:</b> Designing a shape that reduces air resistance. Drawing a net to create a structure from. Choosing shapes that increase or decrease speed as a result of air resistance. Personalising a design. Measuring, marking,</p>



<p>case for my mindful moment timer. Using and manipulating shapes and clipart and using computer-aided design (CAD) to produce a logo. Following a list of design requirements. Developing a prototype case for my mindful moment timer. Creating a 3D structure using a net. Programming a Micro:bit to time a set number of seconds/minutes upon button press. Analysing a range of timers by comparing their advantages and disadvantages. Evaluating my Micro:bit program against points on my design criteria and amending them to include any changes I made. Documenting and evaluating my project. Understanding what logos are and why they are important in the world of design and business. Testing my program for bugs (errors in the code). Finding and fixing the bugs (debug) in my code.</p>	<p>texture and appearance. Describing the impact of the budget on the selection of ingredients. Evaluating and comparing a range of products. Suggesting modifications.</p>	<p>fabrics with ease using fabric scissors. Threading needles with greater independence. Tying knots with greater independence. Sewing cross stitch to decorate or join fabric. Decorating fabric using appliqué, beads (or other embellishments), ribbon and pinking scissors. Evaluating an end product.</p>	<p>Generating a final design for the electric poster with consideration for the client's needs and design criteria. Planning the positioning of the bulb (circuit component) and its purpose. Mounting the poster onto corrugated card to improve its strength and withstand the weight of the circuit on the rear. Measuring and marking materials out using a template or ruler. Fitting an electrical component (bulb). Learning ways to give the final product a higher quality finish (e.g. framing to conceal a roughly cut edge). Learning to give and accept constructive criticism on own work and the work of others. Testing the success of initial ideas against the design criteria and justifying opinions. Revisiting the requirements of the client to review developing design ideas and check that they fulfil their needs.</p>	<p>Making a variety of free-standing frame structures of different shapes and sizes. Selecting appropriate materials to build a strong structure and for the cladding. Reinforcing corners to strengthen a structure. Creating a design in accordance with a plan. Learning to create different textural effects with materials.</p>	<p>cutting and assembling with increasing accuracy. Making a model based on a chosen design. Evaluating the speed of a final product based on: the effect of shape on speed and the accuracy of workmanship on performance.</p>
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**Class 4**  
**Year A**

*This Long Term Plan is to be used in conjunction with the Kapow DT Curriculum as referenced in the Policy*

Term	Autumn		Spring	Summer
<b>Theme/Topic</b>	Structures: Bridges	Structures: Playgrounds	Electrical systems: Steady Hand Game	Cooking & Nutrition: What could be healthier?
<b>Main Enquiry (brief)</b>	Can I design and build a wooden truss bridge?	Can I design & build a miniature playground?	Can I use my knowledge of circuits to design & build a game?	Can I make a tasty, healthy Bolognese sauce?
<b>Coverage</b>	Test and analyse various types of bridge to determine their strength and stability. Explore material properties and sources, before marking, sawing and assembling a wooden truss bridge.	Research existing playground equipment and their different forms, before designing and developing a range of apparatus to meet a list of specified design criteria.	Understand what is meant by fit for purpose design and form follows function. Design and develop a steady hand game using a series circuit, including housing and backboard.	Discover the farm to fork process, understand the key welfare issues for rearing cattle. Compare the nutritional value of existing sauces and develop a healthier recipe.
<b>Key Knowledge &amp; Skills</b>	<p><u>Key Knowledge</u> To understand some different ways to reinforce structures. To understand how triangles can be used to reinforce bridges. To know that properties are words that describe the form and function of materials. To understand why material selection is important based on their properties. To understand the material (functional and aesthetic) properties of wood.</p> <p><u>Key Skills</u> Designing a stable structure that is able to support weight. Creating a frame structure with focus on triangulation. Making a range of different shaped beam bridges. Using triangles to create truss bridges that span a given distance and support a load. Building a wooden bridge structure. Independently measuring and</p>	<p><u>Key Knowledge</u> To know that structures can be strengthened by manipulating materials and shapes. To understand what a 'footprint plan' is. To understand that in the real world, design can impact users in positive and negative ways. To know that a prototype is a cheap model to test a design idea.</p> <p><u>Key Skills</u> Designing a playground featuring a variety of different structures, giving consideration to how the structures will be used. Considering effective and ineffective designs. Building a range of play apparatus structures drawing upon new and prior knowledge of structures. Measuring, marking and</p>	<p><u>Key Knowledge</u> To know that 'form' means the shape and appearance of an object. To know the difference between 'form' and 'function'. To understand that 'fit for purpose' means that a product works how it should and is easy to use. To know that 'form over purpose' means that a product looks good but does not work very well. To know the importance of 'form follows function' when designing: the product must be designed primarily with the function in mind. To understand the diagram perspectives 'top view', 'side view' and 'back'.</p> <p><u>Key Skills</u> Designing a steady hand game, identifying and naming the components required. Drawing a design from three different perspectives. Generating ideas through sketching and discussion. Modelling ideas through prototypes. Understanding the purpose of products (toys), including what is meant by 'fit for</p>	<p><u>Key Knowledge</u> To understand where meat comes from – learning that beef is from cattle and how beef is reared and processed, including key welfare issues. To know that I can adapt a recipe to make it healthier by substituting ingredients. To know that I can use a nutritional calculator to see how healthy a food option is. To understand that 'cross-contamination' means that bacteria and germs have been passed onto ready-to-eat foods and it happens when these foods mix with raw meat or unclean objects.</p> <p><u>Key Skills</u> Adapting a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients. Writing an amended method for a recipe to incorporate the relevant changes to ingredients. Designing appealing packaging to reflect a recipe. Cutting and preparing recipes safely. Using equipment safely, including knives, hot pans and hobs.</p>

	<p>marking wood accurately.</p> <p>Selecting appropriate tools and equipment for particular tasks. Using the correct techniques to saw safely.</p> <p>Identifying where a structure needs reinforcement and using card corners for support.</p> <p>Explaining why selecting appropriate materials is an important part of the design process.</p> <p>Understanding basic wood functional properties.</p> <p>Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary.</p> <p>Suggesting points for improvements for own bridges and those designed by others.</p>	<p>cutting wood to create a range of structures.</p> <p>Using a range of materials to reinforce and add decoration to structures.</p> <p>Improving a design plan based on peer evaluation.</p> <p>Testing and adapting a design to improve it as it is developed.</p> <p>Identifying what makes a successful structure.</p>	<p>purpose' and 'form over function'.</p> <p>Constructing a stable base for a game.</p> <p>Accurately cutting, folding and assembling a net.</p> <p>Decorating the base of the game to a high-quality finish.</p> <p>Making and testing a circuit.</p> <p>Incorporating a circuit into a base.</p> <p>Testing their own and others' finished games, identifying what went well and making suggestions for improvement.</p> <p>Gathering images and information about existing children's toys.</p> <p>Analysing a selection of existing children's toys.</p>	<p>Knowing how to avoid cross-contamination.</p> <p>Following a step-by-step method carefully to make a recipe.</p> <p>Identifying the nutritional differences between different products and recipes.</p> <p>Identifying and describing healthy benefits of food groups.</p>
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## Year B

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Term	Autumn		Spring	Summer	
<b>Theme / Topic</b>	Mechanical Systems: Pop-up book	Textiles: Stuffed Toys	Mechanical Systems: Automata toys	Digital World: Navigating the World	Cooking & Nutrition: Come Dine with Me
<b>Main Enquiry (brief)</b>	Can I design & make my own pop-up book?	Can I design & make a stuffed toy for Christmas?	Can I design and build a miniature, mechanical window shop display?	Can I design & make a navigation tool?	Can I make a 3-course meal around 3 key ingredients?
<b>Coverage</b>	Create a functional four-page pop-up storybook design, using lever, sliders, layers and spacers to create paper-based mechanisms.	Design a stuffed toy and make decisions on materials, decorations and attachments (appendages), after learning how to sew a blanket stitch.	Develop a functional automata window display, to meet the requirements in a design brief. Explore and create cam, follower and axle mechanisms to mimic different movements.	Design and program a navigation tool to produce a multifunctional device for trekkers using CAD 3D modelling software. Pitch and explain the product to a guest panel.	Develop a three-course menu focused on three key ingredients, as part of a paired challenge to develop the best class recipes. Explore each key ingredient's farm to fork process.
<b>Key Knowledge &amp; Skills</b>	<p><u>Key Knowledge</u> To know that mechanisms control movement. To understand that mechanisms can be used to change one kind of motion into another. To understand how to use sliders, pivots and folds to create paper-based mechanisms. To know that a design brief is a description of what I am going to design and make. To know that designers often want to hide mechanisms to make a product more aesthetically pleasing.</p> <p><u>Key Skills</u> Designing a pop-up book which uses a mixture of structures and mechanisms. Naming each mechanism, input and output accurately. Storyboarding ideas for a</p>	<p><u>Key Knowledge</u> To know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric. To understand that it is easier to finish simpler designs to a high standard. To know that soft toys are often made by creating appendages separately and then attaching them to the main body. To know that small, neat stitches which are pulled taut are important to ensure that the soft toy is strong and holds the stuffing securely.</p> <p><u>Key Skills</u> Designing a stuffed toy considering the main component shapes required and creating an appropriate template. Considering the proportions of individual components.</p>	<p><u>Key Knowledge</u> To understand that the mechanism in an automata uses a system of cams, axles and followers. To understand that different shaped cams produce different outputs. To know that an automata is a hand-powered mechanical toy. To know that a cross-sectional diagram shows the inner workings of a product.</p> <p>Experimenting with a range of cams, creating a design for an automata toy based on a choice of cam to create a desired movement. Understanding how linkages change the direction of a force. Making things move at the same time. Understanding and drawing cross-sectional diagrams to show the inner-workings of my design.</p>	<p><u>Key Knowledge</u> To know that accelerometers can detect movement. To understand that sensors can be useful in products as they mean the product can function without human input. To know that designers write design briefs and develop design criteria to enable them to fulfil a client's request. To know that 'multifunctional' means an object or product has more than one function. To know that magnetometers are devices that measure the Earth's magnetic field to determine which direction you are facing.</p> <p><u>Key Skills</u> Writing a design brief from</p>	<p><u>Key Knowledge</u> To know that 'flavour' is how a food or drink tastes. To know that many countries have 'national dishes' which are recipes associated with that country. To know that 'processed food' means food that has been put through multiple changes in a factory. To understand that it is important to wash fruit and vegetables before eating to remove any dirt and insecticides. To understand what happens to a certain food before it appears on the supermarket shelf (Farm to Fork).</p> <p><u>Key Skills</u></p>

	<p>book.</p> <p>Following a design brief to make a pop up book, neatly and with focus on accuracy. Making mechanisms and/or structures using sliders, pivots and folds to produce movement.</p> <p>Using layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result.</p> <p>Evaluating the work of others and receiving feedback on own work.</p> <p>Suggesting points for improvement.</p>	<p>Creating a 3D stuffed toy from a 2D design.</p> <p>Measuring, marking and cutting fabric accurately and independently.</p> <p>Creating strong and secure blanket stitches when joining fabric.</p> <p>Threading needles independently.</p> <p>Using appliqué to attach pieces of fabric decoration.</p> <p>Sewing blanket stitch to join fabric.</p> <p>Applying blanket stitch so the spaces between the stitches are even and regular.</p> <p>Testing and evaluating an end product and giving points for further improvements.</p>	<p>Measuring, marking and checking the accuracy of the jelutong and dowel pieces required.</p> <p>Measuring, marking and cutting components accurately using a ruler and scissors.</p> <p>Assembling components accurately to make a stable frame.</p> <p>Understanding that for the frame to function effectively the components must be cut accurately and the joints of the frame secured at right angles.</p> <p>Selecting appropriate materials based on the materials being joined and the speed at which the glue needs to dry/set.</p> <p>Evaluating the work of others and receiving feedback on own work.</p> <p>Applying points of improvement to their toys.</p> <p>Describing changes they would make/do if they were to do the project again.</p>	<p>information submitted by a client.</p> <p>Developing design criteria to fulfil the client's request.</p> <p>Developing a product idea through annotated sketches.</p> <p>Placing and manoeuvring 3D objects, using CAD.</p> <p>Changing the properties of, or combine one or more 3D objects, using CAD.</p> <p>Considering materials and their functional properties, especially those that are sustainable and recyclable (for example, cork and bamboo).</p> <p>Explaining material choices and why they were chosen as part of a product concept.</p> <p>Programming an N,E, S,W cardinal compass.</p> <p>Explaining how my program fits the design criteria and how it would be useful as part of a navigation tool.</p> <p>Developing an awareness of sustainable design.</p> <p>Explaining the key functions and features of my navigation tool to the client as part of a product concept pitch.</p> <p>Demonstrating a functional program as part of a product concept.</p>	<p>Writing a recipe, explaining the key steps, method and ingredients. Including facts and drawings from research undertaken.</p> <p>Following a recipe, including using the correct quantities of each ingredient.</p> <p>Adapting a recipe based on research.</p> <p>Working to a given timescale.</p> <p>Working safely and hygienically with independence.</p> <p>Evaluating a recipe, considering: taste, smell, texture and origin of the food group.</p> <p>Taste testing and scoring final products.</p> <p>Suggesting and writing up points of improvements in productions.</p> <p>Evaluating health and safety in production to minimise cross contamination.</p>
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# Appendices 2

Friezland School Progression Document for Design Technology

Class	Yearly Objectives
Year 1	<p>I can use my own ideas to make something.                      I can describe how something works.                      I can cut food safely                      I can make a product which moves                      I can make my model stringer                      I can explain to someone else how I want to make my product                      I can choose appropriate resources and tools                      I can make a simple plan before making.</p>
Year 2	<p>I can think of an idea and plan what to do next                      I can choose tools and materials and explain why I have chosen them                      I can join materials and component in different ways                      I can explain what went well with my work                      I can explain why I have chosen specific textiles                      I can measure materials to use in a model or structure                      I can describe the ingredients I am using</p>
Year 3	<p>I can prove that my design meets some set criteria                      I can follow a step by step plan choosing the correct materials                      I can design a product and make sure that it looks attractive                      I can choose a textile for both its suitability and its appearance                      I can select the most appropriate tools and techniques for a given task                      I can make a product that uses both electrical and mechanical components                      I can work accurately to measure, make cuts and make holes.                      I can design how food ingredients come together</p>
Year 4	<p>I can use ideas from other people when I am designing                      I can produce a plan and explain it                      I can evaluate and suggest improvements for my designs                      I can evaluate products for both their purpose and appearance                      I can explain how I have improved my original design                      I can present a product in an interesting way                      I can measure accurately                      I can persevere and adapt my work when my original ideas do not work                      I know how to be both hygienic and safe when using food</p>
Year 5	<p>I can come up with a range of ideas after collecting information from different sources                      I can produce a detailed step by step plan                      I can suggest alternative plans outlining the positive features and drawbacks                      I can explain how a product will appeal to a specific audience                      I can evaluate appearance and function against original criteria                      I can use a range of tools and equipment competently                      I can make a prototype before I make a final version                      I show that I can be both hygienic and safe in the kitchen</p>
Year 6	<p>I can use market research to inform my plans and ideas                      I can follow and refine my plans                      I can justify my plans in a convincing way                      I can show that I consider culture and society in my plans and designs                      I show that I test and evaluate my products                      I can explain how product should be stored and give reasons                      I can work within a budget                      I can evaluate my product against clear criteria</p>